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The Ranger Regimental Reconnaissance Detachment : the role of technology in a Humint-based organization

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THESIS

THE RANGER REGIMENTAL RECONNAISSANCE DETACHMENT: THE ROLE OF TECHNOLOGY IN A HUMINT-BASED ORGANIZATION

by

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This thesis examines the impact of technology on the capabilities of the Regimental Reconnaissance Detachment (RRD) and looks at how the unit's capabilities can be enhanced, at reasonable cost. The thesis focuses on three current or emerging technologies, consisting of: remote battlefield sensing systems; a Signals Intelligence (SIGINT) acquisition platform; and the use of tactical Unmanned Aerial Vehicles (UAVs). This thesis also examines the current capabilities and shortfalls of the RRD, and examines what the above mentioned systems can provide as "stand-alone" technologies. The thesis considers the likely impact on the unit once these technologies are used in conjunction with the unit's HUMINT capabilities, and whether the RRD's intelligence acquisition capabilities are enhanced. A cost benefit analysis will also be done, in addition to looking at how the unit may need to be reorganized in order to maximize these new capabilities . The implication of this research is that the Ranger Regiment needs to have a much more robust, organic, intelligence acquisition organization in order to meet the challenges of the changing, high-risk global threat environment that the Regiment will find itself operating in. The findings of the analysis show how integrating current and emerging technologies could increase the intelligence acquisition capabilities of RRD and allow RRD, and the Ranger Regiment, to continue to maintains its lead as the US military's premier strike force.

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technologies could increase the intelligence acquisition capabilities of RRD and allow RRD, and the Ranger Regiment, to continue to maintains its lead as the US military's premier strike force.

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I. INTRODUCTION

A. BACKGROUND

The most effective intelligence acquisition programs are those that blend the latest technological assets with highly trained soldiers into an integrated and seamless organization. Technology can be used to supplement human capabilities, not replace them; while humans in the field can assist the operators of technical equipment by corroborating and expanding upon the intelligence gathered. This integration of assets can produce timely, detailed, and accurate intelligence that acts as a force multiplier for a Special Operations Force (SOF) commander who must maintain flexibility on today's fluid and fast-paced battlefield.

Intelligence plays a vital role across a range of military operations in peace and war and is often critical to operational success. For example, good intelligence was crucial to the success of the US Ranger raid on Cabanatuan on 30 January 1945 (McRaven, 1995, pg.273). Again, in the Gulf War, Special Forces and SEAL Reconnaissance Teams were used successfully to ferret out Iraqi troop and armor formations while also providing intelligence on enemy intentions to ground commanders (Walker, 1994, pg. 168).

Commanders must be able to gain and maintain intelligence dominance of the battlefield, defined in relative terms as knowing more than the enemy, in order to maximize the essential advantages of surprise, security, and flexibility. Generally, commanders will employ any collection and analysis capabilities they possess in order to gain intelligence dominance. This is accomplished by obtaining as much relevant intelligence as they can, and enhancing their flexibility by opening up additional operational options.

There are three levels of intelligence support: strategic, operational, and tactical. Strategic intelligence is required for the formulation of strategy, policy, and military plans and operations at national and theater levels. Operational intelligence is required for planning and conducting campaigns and major operations to accomplish strategic objectives within theaters or areas of operations. Tactical intelligence is required for planning and conducting tactical operations (Field Manual 34-43, RECCE-J, 1996).

Intelligence sources are the means or systems used to observe, sense and record, or convey information. There are several primary intelligence source types: imagery, humans, signals, measurements and signatures, open sources and

technical data. Once information is acquired utilizing these means, it is "…further developed through analysis, interpretation, or correlation with other data and intelligence" (Joint Pub. 2-02, 1998). This application of analysis transforms information into intelligence. In short, intelligence enables commanders at all levels to focus and protect their combat power and resources and provide force protection for those resources (Joint Pub. 20-1, 1996).

The ability to acquire and utilize battlefield intelligence is even more crucial for special operations forces (SOF) due to the high-risk missions these units undertake. Modern SOF units are a potent joint force for the uncertain, high-risk, changing global environment in which SOF increasingly finds itself currently operating. SOF units are currently fully integrated into joint campaign plans and act as combat multipliers across the entire operational spectrum.

However, due to their organizational structure and numerical inferiority, SOF units have historically relied on other joint intelligence collection assets to provide accurate, relevant, and timely information. In addition to being accurate and timely, the information must be correctly analyzed, processed, and disseminated. This past reliance on other, non-organic sources of intelligence and analysis has

resulted in several noticeable failures within the Special Operations community, including Operation Eagle Claw (Marquis, 1997, pg. 69) and the Son-Tay Raid (McRaven, 1996, pg.287). There are some Special Mission Units (SMU's) that operate under cover in denied or hostile areas and have their own limited organic intelligence acquisition assets. However, by nature, these units' missions are very narrow and target specific.

Most SOF units today have their own organic intelligence collection assets assigned to them; but these organic units possess several capability shortfalls. If the organic intelligence collection asset lacks certain capabilities, then the commander must augment this unit in order to obtain these capabilities. Additional intelligence support that is non-organic is classified as attached or supporting. Attached units or assets support a particular operation or phase of operation. Supporting assets usually provide theater or national-level intelligence support to a joint force commander and come from outside the commanders' area of responsibility (Joint Pub 2-0, 1998).

B. PURPOSE

The purpose of this thesis is to look at the current organizational capabilities and shortfalls of the Regimental

Reconnaissance Detachment (RRD) of the 75th Ranger Regiment and examine how those HUMINT capabilities can be enhanced by augmenting them with certain organic, technological assets. In addition, this thesis also shows how improving the intelligence acquisition capabilities of the RRD also greatly enhances mission success for the Ranger Force. The proposed changes allow it to remain the evermore potent and relevant force envisioned in SOF Vision 2010.

The methodology employed in this study consists of using a combination of counterfactual analysis and heuristic, variable-oriented study. In order to use the variable-oriented study though, the hypothesis to be studied must first be specified (Ragin, 1989, pg.55). The hypothesis centers on two assumptions: 1) The acquisition of certain technological assets will greatly increase the intelligence gathering capabilities of the RRD; and 2) In order to maximize utility, these assets must be organic to the Ranger Regiment.

The heuristic analysis examines the benefits, relative to the costs and risks of these assets. A qualitative cost-benefit analysis is used to test the hypothesis. The analysis surveys those operational liabilities that currently exist within RRD, and examines those technological assets that might provide the greatest complement to RRD's

current capabilities. The strengths, as well as the shortfalls, of a newly reorganized RRD are examined to test the hypothesis.

The effectiveness of the blending of HUMINT and technology-based intelligence is considered across a spectrum of threat environments, both real and hypothetical. This examination focuses on how these new assets affect the mission of RRD, both positively and negatively. Finally, with these proposed changes, alternative employment considerations need to be examined for new and potentially heavier and more sensitive equipment. For this portion, the current mission profiles of the Reconnaissance Detachment are examined to determine what changes, if any, need to be made to accommodate these new assets.

C. RELEVANCE

The 75th Ranger Regiment is the United States Army's premier strike force, and has the mission of planning and conducting special missions in support of US policy and objectives. The Regiment has taken part in every major combat operation in which the US has been involved since the end of the Vietnam War. Although the unit is capable of conducting conventional combat operations, it usually operates as part of a Joint Special Operations Task Force

(JSOTF), conducting direct action or other appropriate missions in conjunction with, or in support of, other SOF units (*Special Operations Forces Posture Statement*, 1998, pg.48).

Due to the nature of the missions that the 75th Ranger Regiment conducts, usually identified as direct military actions focused on strategic and operational objectives, it relies heavily on timely and accurate intelligence.

The Regimental Reconnaissance Detachment (RRD) is the Ranger Regiment's organic and, at times, primary intelligence collection asset. The detachment is composed of three five-man teams and a small headquarters element that provides both support and command and control for the teams. The detachment conducts reconnaissance and surveillance actions to obtain or verify information concerning the capabilities, intentions, and activities of an actual or potential enemy, or to secure information concerning characteristics of a particular area. Although the detachment primarily conducts these operations in support of the Ranger Regiment, it is also capable of supporting other SOF units.

Of the several intelligence source types previously identified, the Reconnaissance Detachment relies primarily on human intelligence (HUMINT). HUMINT acquisition

operations are defined as conducting intelligence, reconnaissance, and surveillance operations in real time through physical deployment into the operational area (Englund, 1987). However, the detachment is currently capable of expanding its intelligence collection capabilities when augmented with attachments from other SOF or Special Mission Units (SMU). The detachment also has the potential to further expand its capabilities through the use of current and emerging technologies.

The detachment's strength lies in its ability to conduct tactical reconnaissance against targets of operational significance. Although the detachment has significantly expanded its capabilities within the last 2-3 years, their current training focuses on their ability to conduct tactical reconnaissance as a HUMINT asset.

1. HUMINT/Operational Considerations

The 75th Ranger Regimental Commander has a vast array of intelligence acquisition means available to him, although most are not organic to the unit. This includes everything from manned aerial observation to communications monitoring, and from electronic sensor devices to unmanned aerial vehicles and imagery support. When operating as part of a

JSOTF, these may include assets that are found at the Department of Defense and national levels.

What these assets cannot easily provide, and what the Reconnaissance Detachment does provide to the Regimental Commander, is a level of comfort and capability with which the commander is confident.

Unlike technical means of collecting information, the centuries-old method of sending soldiers in to the area of operations to collect information is still relevant and critical. However, in this age of emerging technologies and high risk, uncertain environments in which SOF constantly finds itself, there is greater value in blending technology with human intelligence gathering. This is especially true in light of the fact that our fascination with technology has resulted in the development of people sniffers, seismic and acoustical devices, radars, SIGINT interceptors, micro sized unmanned aerial vehicles and all sorts of other high tech devices. (Englund, 1987, pg. 2).

As a technologically advanced military force, it makes sense to employ the latest technology to supplement human capabilities when possible, or to achieve those goals that either cannot be accomplished by soldiers on the ground or are too dangerous. The reluctance to put human beings in harm's way may dictate that technological means be utilized

to gather information. Even with today's advances in technology, equipment breakdowns and natural and man-made obstacles such as wind, animals, temperatures and countermeasures may significantly reduce the accuracy and reliability of these assets. However, even with these potential pitfalls, the positive incentives still far outweigh the negatives.

The issue is not whether the all-important human element can be replaced with electronic means of intelligence acquisition. The issue is, rather, how we can use modern technology to assist and increase the efficiency of the Reconnaissance Detachment and, subsequently, the Ranger Force or members of a JSOTF.

Success on the modern battlefield still requires combat personnel who are capable of sensing the actual situation, reporting impressions, evaluating intentions, and collecting and sending back the commander's priority intelligence requirements in a timely fashion. Human error and the risk of detection and capture are factors that must be weighed against the potential for obtaining dependable information.

The Reconnaissance Detachment also provides the commander with the most flexible and dependable means of acquiring target and intelligence data. Unlike implanted sensors, people sniffers, seismic and acoustical devices and

other electronic equipment that are not organic to the Ranger Regiment, the reconnaissance teams can be redirected by the commander when the situation or intelligence dictates.

2. RRD-The Future of Ranger Reconnaissance

The Regimental Reconnaissance Detachment possesses the operational capabilities to enable it to operate along a wide portion of the reconnaissance spectrum. However, the detachment's operational capabilities and effectiveness can be significantly enhanced by restructuring the unit and integrating technical acquisition assets as an organic part of the unit. This would give the Regimental Commander a much more robust capability and allow him greater flexibility to gather intelligence along a wider range of the reconnaissance and operational spectrum. This capability, coupled with the current highly-trained Reconnaissance Detachment, would improve the chances for mission success for SOF units and decrease risks, not only for the Reconnaissance Detachment, but also for the SOF units that rely on timely and accurate intelligence.

There are three assets that would provide the greatest degree of increased capabilities for the Regimental Reconnaissance Detachment. First, there are Improved Remote

Battlefield Sensor Systems with a video capability as well as seismic, passive infrared, and magnetic sensors. Second, the RRD also needs a Signals Intelligence (SIGINT)[1] collection asset such as the AN/PRD-13 (V) 2. This SIGINT collection asset must also be capable of Communications (COMINT) and Electronics Intelligence (ELINT). The third asset that the RRD needs to increase its operational capability significantly, is a micro Tactical Unmanned Aerial Vehicle (TUAV). The integration of these assets with the HUMINT element that RRD brings into the reconnaissance arena should result in robust sensor fusion. This will allow the Regimental Commander to increase his situational awareness of the target area, cover any "black holes" in front of the ground reconnaissance; and, ultimately, take risks in those areas that have been confirmed as void of threat.

The concept of sensor fusion allows the finders to detect the hiders using sound, vision, heat, touch and even smell, to confirm or deny what the human element detects

[1] According to FM 34-43 (RECCE-J),SIGINT is the product resulting from the collection, evaluation, analysis, integration , and interpretation of information derived from intercepted electromagnetic emissions. It is subdivided into communications intelligence (COMINT), electronic intelligence (ELINT), and foreign instrumentation signals intelligence (FISINT).

(Zimmermann, 1995). In conjunction with these additions to the RRD, the RRD may require a change in its organizational structure so as to maximize its efficiency when utilizing these systems. This will facilitate and improve the process of getting the information from the operators back to the Regimental Intelligence Section and then integrating it into the intelligence and targeting cycles, thus maximizing usage and ensuring that the assault force is provided the requisite intelligence in a timely fashion.

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II. REGIMENTAL RECONNAISSANCE DETACHMENT (RRD): RECOMMENDED TECHNICAL CAPABILITIES

A. REMOTELY MONITORED BATTLEFIELD SENSOR SYSTEM (REMBASS)

REMBASS is an unattended ground sensor system that detects, classifies, and determines the direction of movement of intruding personnel and vehicles. With a meteorological sensor attached, it will also sense and collect weather information. This can be an important feature since SOF rely heavily on aircraft to insert forces, and aircraft are sensitive to changing weather conditions. This could affect an airborne operation such as an airfield seizure, or an air-land operation to off-load Ranger Special Operations Vehicles (RSOV's)[2] and personnel. It could also affect fast-rope missions, or even a rotary wing emergency extraction of RRD personnel.

REMBASS uses remotely monitored sensors emplaced along likely enemy avenues of approach. These Unattended Ground Sensors (UGS) are small, field-deployable sensor devices that respond to seismic-acoustic activity, infrared energy,

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[2] The RSOV is a specially modified British Land Rover that is used by the Ranger Battalions. It can carry five personnel and mounts either a 50 caliber Machine gun or a MK 19 Grenade Launcher.

and magnetic field changes to detect enemy activity. The sensors process the data and provide detection of classification information which is incorporated into digital messages and transmitted through short burst transmissions to the system-sensor-monitor-programmer set. The messages are demodulated, decoded, displayed, and recorded to provide a time-phased record of enemy activity.

The Improved REMBASS (I-REMBASS) is an unattended ground sensor system that will also detect, classify and determine the direction of movement of intruding personnel and vehicles. This system is intended to provide divisions, brigades, and battalions with information on activities in areas in front of the Forward Line of Troops (FLOT) and for rear area protection. They can also be used for screening, force protection, and for covert surveillance. This system can provide commanders with situational awareness and target development capabilities that include location and speed of targets, classification of type (personnel, wheeled and tracked), direction of travel, and even target count. These sensors have the ability to detect, identify, and locate active and passive targets above and underground, waterborne, airborne, or in space, to include signals that emanate from underground pipelines.

The I-REMBASS consists of three types of sensors (passive IR, magnetic, and seismic/acoustic), a hand-held monitor programmer, and a small, lightweight radio repeater. The current model is fielded to SOF units for ground surveillance in deep penetration/denied area operations, in low intensity conflicts, and for surveillance of hostile activity behind enemy lines. This system detects moving targets and classifies them as personnel, wheeled vehicles, or tracked vehicles. This system also transmits real-time reports on activity within the sensors detection radius. The I-REMBASS utilizes either lithium or alkaline batteries and has a graphics software package for graphics display on an MS-DOS-based laptop computer.

The features, physical parameters, and performance characteristics of the I-REMBASS make it a system that could easily be integrated into RRD operations. The multi-sensor system consists of magnetic, seismic/acoustic, IR and meteorological sensors. It is also a durable and reliable system that has a low false positive rate and provides remote sensor status reports. It is also jam resistant and easy to emplace, but is not designed to withstand a nuclear blast. The sensor itself only weighs 4 pounds while the monitor and repeater weigh, respectively, 5 pounds and 6 pounds. The relatively lightweight and small size of these

components make them easy to jump or to carry over long distances when a long-range foot infiltration is the only means of getting into the target area. The detection range for personnel is 3-50 meters, while the detection ranges for wheeled and tracked vehicles are, respectively, 15-250 meters and 25-350 meters.

The I-REMBASS is a downsized version of the originally fielded REMBASS. The history of the I-REMBASS dates back to the Vietnam War when a system called Unattended Ground Sensor System (UGSS) was used to detect enemy movement. The UGSS may be the first generation of what is currently called the I-REMBASS, but variations of the UGSS are still around today and used by SOF units, including sensors that can be cleverly disguised as twigs or rocks.

The I-REMBASS was used for the second time since the Gulf War during Operation Joint Endeavor in Bosnia. SOF units covertly used this system to monitor foot and vehicle traffic. The sensors were remotely emplaced and were able to send radio signals up to 15 kilometers away and could tell the type of traffic and the direction that the traffic was moving. As a result of the success of this system, the US Army has recently tested an enhanced version called the REMBASS II.

The REMBASS II was tested on 27-28 January 1999 at Fort Huachuca and all sensors performed to specification. The newly configured REMBASS II is smaller, lighter and less costly than the current I-REMBASS. It also comes equipped with new sensor types that allow it to provide Force XXI[3] digital battlefield target information, in addition to having communication system enhancements which permit deep insertion capability. Finally, the REMBASS II can be delivered via alternative mechanisms such as air, artillery, or even via robotics. Based upon the successful demonstration and testing of the REMBASS II, the recommendation of the Concepts Division at Fort Huachuca was to continue to develop and produce the REMBASS II, and it will be fielded to units in the near future.

B. SIGNALS INTELLIGENCE (SIGINT)

The AN/PRD-13 (V) 2 is a portable, ground-based, tactical high frequency (HF), very high frequency (VHF), and ultra high frequency (UHF) intercept system with a HF, VHF, and UHF direction finding (DF) system. This system provides search, intercept, and direction finding functions in the

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[3] Force XXI is the US Army's Advance Warfighting Experimental Force that is testing new technology to train for war on a digital battlefield. It is composed of members of the 1st Brigade, 4th Infantry Division and conducts training primarily at the National Training Center at Ft. Irwin.

high frequency, very high frequency, and ultra high frequency spectra. The system allows for quick and accurate characterization of the signal environment, signal exploitation, signal location, and threat warning. This system can also maintain an active signal list of up to 400 signals measuring frequency, bandwidth, time-first-seen, percent time active, DF bearing and signal strength.

The AN/PRD-13 (V) 2 is a component of a SIGINT and electronic warfare (EW) System called the Prophet. The Prophet is the division or regimental commander's principal SIGINT and EW system and a preprocessor of organic SIGINT. It provides the tactical commander with an enhanced capability for electronic Intelligence Preparation of the Battlefield (IPB), battlespace visualization, target development, and force protection. It also gives the maneuver commander a comprehensive picture of electronic emitters within his battlespace; and provides the ability to locate, collect, and electronically attack selected emitters where ground reconnaissance assets cannot penetrate or cover in a timely manner. The Prophet ground elements are fielded to the Direct Support Companies of the Military Intelligence (MI) Battalion or Regimental equivalent and are capable of early (forced) entry through airborne or light infantry operational insertions.

The AN/PRD-13 (V) 2 is operable by a single person, can be set up in five minutes or less, and weighs just 42 pounds; including the internal battery. The system, cables, and components fit in a single pack and can be jumped in support of airborne operations. The inherent power usage design of the system allows the system to be operated up to 24 hours on a single battery. An optional solar panel is available to operate the system on an extended basis, or to recharge the optional NICAD battery.

The receiver is dual purpose, providing simultaneous DF and monitoring capability. It consists of three receivers, one designated the DF receiver and two are monitor receivers. All three can be used in directed search (channel scan) and monitor (fixed tuned) modes. This receiver is capable of executing up to three functions simultaneously, including manual, directed search and general sweep (band sweep). The DF function can be executed from any of these modes. The overall weight of this receiver is 16.2 pounds, exclusive of the internal battery.

This system also comes with a small, lightweight broadband antenna, which provides accurate DF over the 2 to 2000 MHz frequency range. This HF/VHF/UHF capable antenna is designed to work on the ground but has provisions for both

tripod and mobile mounting. The overall weight of the antennae is 9 pounds.

Additionally, the system also comes with a monitor antenna, which weighs 2.1 pounds and a handheld DF antennae. The handheld antenna is compact, lightweight, low power and directional.

RRD is provided this capability during Joint Readiness Exercises when SMUs that possess this capability are attached to them during certain missions. This critical capability allows the Ranger Force to exploit tactical voice communications as well as collect COMINT and ELINT signatures.

C. TACTICAL UNMANNED AERIAL VEHICLE (UAV) (MICRO)

During the 1997 Congressional Hearings on Intelligence and Security, LTG Jay M. Garner, Assistant Vice Chief of Staff of the Army, stated that a "...key component of the Army's tactical reconnaissance capabilities and a primary enabler of the Army's patterns of operations as identified in Army Vision 2010 is the Tactical UAV." The tactical UAV provides reconnaissance, surveillance, and target acquisition beyond the front line of troops or in a high-threat environment, and provides the front-line commander

with over the hill, real time video capabilities while reducing the threat to any HUMINT reconnaissance assets.

Tactical UAVs, unlike Endurance UAVs, typically have a flight time of 10 hours or less and an operating radius no greater than 150 miles. These figures are even lower for micro aerial vehicles (MAVs).

The Defense Advanced Research Projects Agency (DARPA) is currently conducting system development and fabrication of the MAV; they also are continuing to explore and demonstrate flight-enabling technologies and subsystems. These micro air vehicles are airborne vehicles that are no larger than six inches in either length, width or height and can perform a multitude of functions at a reasonable cost. DARPA envisions individual soldiers at the platoon, company or brigade level using such vehicles for reconnaissance and surveillance, targeting, emplacing sensors or for sensing chemical, nuclear, or biological substances.

The first Operational Requirements Document (ORD) for the MAV was written in June 1998 for the U.S. Special Operations Command by Army LTC John Blitch of DARPA's advanced technology office. The challenges of developing a system that is rugged and yet has no logistics tail have been daunting. These vehicles will be able to conduct real-time imaging, have ranges of up to 10 kilometers and speeds

of up to 30 miles per hour for short-duration missions. James McMichael, DARPA's former program manager for the MAV, stated in the August 1997 article *Micro Air Vehicles-Toward a New Dimension,* "These systems are 10 times smaller than any current flying system. They will be uniquely suited to the challenges of small unit operations and operations in urban terrain." For the first time, small unit leaders and individual soldiers will have an asset they own and control and that can provide real time situational awareness and reconnaissance information.

These small, quiet, and hard-to-detect systems will be able to conduct covert imaging in constrained areas and will be especially beneficial in the emerging urban warfighting environment, characterized by its complex topologies, confined spaces, and concentrations of civilians. The military envisions a SOF soldier operating a safe distance away from the target, yet able to reach into his ruck sack, pop out a MAV, hand launch it, then remotely monitor what it detects. RRD members could use this system from a terrain feature away to assist in a multitude of missions, including direct action, or to assist them in moving closer to the target undetected.

Current technologies and compelling new military needs are driving the development of the MAVs. The smallest,

current missioned UAV is the "Sender", developed and operated by the Naval Research Laboratory. Sender weighs only 10 pounds and has a 4-foot wing span and boasts a near 100-mile range capability. Advances in propulsion systems, battery power, micro-electromechanical systems (MEMS), navigation, flight control, aerodynamics and sensor integration ultimately will influence the development and employment of these new and emerging systems. Maturing micro systems such as tiny CCD array cameras, equally small infrared sensors and chip-sized hazardous substance detectors are continuing to provide the catalyst needed to take this system to the next level.

D. SUMMARY

The TUAV, the REMBASS II and the SIGINT systems have been successfully used in the past to collect intelligence. Even now, variations of these systems are currently in use throughout the world, attesting to their value as intelligence collection platforms. As stand-alone systems, they provide significant intelligence acquisition capabilities. However, integrating these systems with the current capabilities of the RRD can provide the Ranger Regimental Commander the type of tactical intelligence that is required to fight and win in any environment.

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III. RRD: A BLEND OF HUMINT AND TECHNOLOGY

A. NEW CAPABILITIES AND LIABILITIES

The addition and integration of the technologies previously discussed will increase the operational effectiveness and enhance the capabilities of RRD. However, there will also be some liabilities that accompany these new systems.

1. REMBASS

The addition of the REMBASS II will allow a team to conduct reconnaissance and surveillance (R&S) over a larger area and be able to gather target-specific intelligence with minimal movement, reducing chances of detection or compromise.

The Ranger Reconnaissance Detachment normally operates with a minimum of four members but the size of the team can increase to eight members with attachments from SMUs. During "conventional" tactical reconnaissance operations, once the team is inserted into the target area, it establishes a mission-support site a safe distance away. This mission support site provides communications and limited logistical support to the reconnaissance and surveillance (R&S) teams that deploy from this site. The R&S teams usually deploy as two teams consisting of two or three men who move to two

separate vantage points close to the target site to conduct R&S activities.

The R&S teams usually remain stationary during daylight hours and maintain constant surveillance on the target. Any needed movement usually is conducted at night or during limited visibility. Movement is usually undertaken to get a closer look at the target, or to emplace or remove remote photographic imaging transmitters. The size of the target may also force the teams to move if they cannot cover the target from their established sites.

In the case of a large airfield complex, the teams may need to observe from more than two R&S sites in order to see the entire airfield and to get a better overall "picture" of the site. If the team is forced to move due to the size of the target, or to find a better vantage point, its chances of detection are significantly increased. The likelihood of detection is increased even more if there are patrols conducting counter-reconnaissance around the target and if snow on the ground or mud, from rain, allows the footprints of the teams to be found and followed.

The use of the REMBASS II can assist the teams in covering larger areas with less movement. The size and weight of The REMBASS II facilitates ease of carry and employment. The REMBASS II comes in a SOF set with a total

combined weight of 10.4 pounds. That weight includes the four seismic/acoustic sensors, and two-each IR and magnetic sensors. These sensors can be emplaced covertly in those areas where the teams cannot conduct surveillance from, and greatly minimize the need for the teams to move around the target area. The only movement that the teams might need to undertake would be to emplace and then recover the sensors. However, due to the relatively low cost of the sensors ($32K for a complete set), they could potentially be left behind if the recovery effort might lead to compromise of the team members or the Ranger mission.

The liabilities in utilizing this system would be minimal. Although it is a small, lightweight system and easily carried in the rucksack, it is still additional weight that already overloaded teams must carry or jump into the area of operations. Due to the RRD's limited mission duration time and the fact they must usually operate without re-supply, they carry an inordinate amount of mission essential equipment (MEE) and food and water in with them. This includes HF, FM, UHF, and satellite communications, as well as other technical surveillance equipment, weapons, ammunition, night vision equipment, survival equipment, and medical kits.

The addition of this system to the RRD inventory will also require that operators be trained to operate and maintain yet another piece of equipment. This may seem insignificant when one looks at what this system can provide. However, the team members already have a vast array of equipment that they must regularly maintain and stay proficient on. This is in addition to the already intensive training cycle they maintain.

2. SIGINT

During certain missions, the capability to conduct tactical search, intercept and direction finding functions in the HF, VHF, and UHF spectrum is provided by attached members of a SMU. This capability allows the teams to locate, tap into, collect and electronically attack selected emitters. This capability to exploit voice communications with minimal threat of compromise to the team is critical and allows the Ranger assault force to modify plans based on intercepted communications. The capability can also confirm or deny intelligence that the RRD may have acquired by other means.

The DF capability of this SIGINT system also allows the team to locate, identify and confirm an enemy command and control node or air defense sites for targeting during or prior to the actual assault. The identification and location

of enemy air defense sites are always a concern when the assault force is preparing to conduct an airborne assault during forced entry operations.

Although this is a critical capability that the Ranger Regiment employs on all Joint Readiness Exercises (JRX), problems manifest themselves due to the fact that this is not an organic asset. As with any attachments, the fact that the RRD is provided these attachments just prior to a mission means that it can be difficult incorporating them properly into the operation. If a team is tasked to provide reconnaissance support for the Ranger Ready Force (RRF) 1 Battalion, which has a requirement to be "wheels up" no later than 18 hours after alert notification, the team may have to insert early and will probably not get these attachments in time.

Providing the RRD with a system like the AN/PRD-13 (V) 2 will allow the unit, and the Regimental Commander, to have this critical capability at his disposal. As an organic asset, it can be employed and utilized by trained members of RRD. This would prevent some of the problems that have emerged in the past when relying on attachments.

During a past JRX, one of the SMU members who provided the SIGINT capability was not military free-fall qualified and could not conduct a HALO (High Altitude, Low Opening)

insertion with the team. This required the team to change their primary method of insertion and also required a change in the insertion time.

Another concern with attachments is the possibility that they would not be prepared to conduct a long-range foot infiltration. The RRD normally conducts training to ensure that they are physically prepared to conduct long-range movements with heavy loads. Again, past experience has proven that not all attachments possess the same level of physical fitness as RRD.

RRD could use a system like the AN/PRD 13(V) 2, which has a remote front-end receiver, and emplace it in the target area. The risk of detection is no greater than the teams currently face when they emplace components of the miniature remote imaging transmitter (mini-RIT), a photographic capture system. They would not need the ability to analyze it but could have the signals sent back to the Intermediate Staging base (ISB) or some type of airborne platform for better analysis. The Regimental Intelligence section could utilize analysts or linguists for this function and may need additional personnel to support this asset.

The acquisition of this system as an organic asset may present some liabilities for the teams. Having their own

systems means that the attachments will no longer be needed. If this is the case, then the members of the RRD will have to carry this system into the target area. As with the REMBASS II, this means additional weight distributed among fewer members, as the elimination of the attachments may mean smaller teams. In addition to the extra weight, this system will require monitoring and places an additional task upon a potentially smaller team.

This asset will also require that team members spend additional training time learning how to operate and maintain this system. In order to maximize the systems potential, the Regimental Intelligence section may also need additional personnel to analyze and decipher the collected signals or transmission.

3. Tactical Unmanned Aerial Vehicles (Micro)

Tactical UAVs would allow the RRD to operate with greater flexibility during missions, and in terrain where the teams would have difficulty operating in currently.

In a medium to high threat environment where getting close to the target area is difficult, or in relatively open terrain, the TUAV would be a great standoff surveillance system. The employment of this system would allow the teams to conceal themselves farther from the target site, yet effectively conduct 24-hour surveillance. They could launch

a micro-sized TUAV that loiters over the target and is small and quiet enough to conduct its mission undetected.

Even if the team could get close to the target area and still establish two separate R&S sites, the TUAV would allow the teams to get unique views of the objective. The ability to see from above allows the teams to see areas they would not normally be able to see from the ground. The TUAVs could also cover those areas that could not be covered by the ground teams, and negate the need for the teams to move, thus decreasing the chances of detection.

In a scenario where a team is conducting surveillance on an airfield that is surrounded by open terrain, the mission support site could be established several kilometers away or behind one terrain feature such as a hill. If the risk of sending out R&S teams is too great, the teams could set up an alternate mission support site and launch the TUAVs from these sites. With two sites, the teams could conduct 24-hour operations and, based on the images provided, potentially send one team forward to an R&S site.

These TUAVs could send simultaneous images back to the mission support site and directly back to the ISB or to an airborne platform. These images could also be used to assist RRD in conducting a limited direct action mission while allowing the teams to maintain a safe distance.

Although the above mentioned scenario is hypothetical, and the micro UAV is still in the developmental stage, there may be some potential liabilities or shortfalls associated in using this system. The greatest potential liability is being able to launch and recover this system undetected and minimizing its signature over the target area. It must also be able to operate under adverse weather conditions and at night, or its potential as a reconnaissance asset would be greatly diminished.

Again, the fact that this is another piece of equipment that has to be carried in and monitored poses some of the same concerns as the other, previously mentioned assets. As with the other systems, acquisition and maintenance of all these assets will require additional funding. This is not an insignificant issue in this age of diminishing dollars and competing budgetary demands.

B. ORGANIZATIONAL SUPPORT

The RRD is currently organized with a headquarters element consisting of the commander, the detachment first sergeant and the executive officer. Falling under the command element are three reconnaissance teams comprising five personnel each, a selection and training team comprising three personnel, an operations section with two

personnel and a communications section consisting of two personnel. This configuration is not dictated by the modified table of organization and equipment (MTOE), though, allowing the Regimental Commander some flexibility in making changes.

The addition of the technical collection assets would require a change in the organizational structure in order to fully maximize the assets' potential. The reorganization would add personnel to allow for the additional training and maintenance back in garrison and allow the teams to be robust enough to employ these systems during missions, while still being able to accomplish all their other operational tasks.

Although the additions could be made to the reconnaissance detachment itself, it would probably make more sense to integrate these additional support personnel into the Military Intelligence Detachment (MID). The MID Commander and the RRD commander work closely together in conjunction with the Regimental Intelligence Officer (RS2) during all missions. The RS2 and the MI detachment are critical to the collection management process.

The collection management also includes three distinct sub-functions, to include: 1)requirements management, 2)mission management, and 3) asset management (FM 34-2,

1994). The requirements management function defines what to collect, when and where. The mission management function defines how to employ the collection assets to satisfy the commander's requirements. These two functions are usually performed by the RS2. The third function, asset management, executes the collection mission with specific assets and resources. This function also can be performed by the RS2 with guidance from the Regimental Commander.

With all the functions that fall under the RS2 and the assets that the MID possesses, which include the Collection Management and Dissemination (CM&D) section, it would make sense to place additional collection assets under the MI detachment.

There would be virtually no liability in having these additional personnel fall under the MI detachment. They would still be able to deploy and train with RRD yet remain an integral part of the RS2 section and the collection strategy. The Regimental Commander and the RS2 would have the flexibility of attaching these personnel to a team for a reconnaissance mission, or keeping them in the rear to assist with collection management and analysis.

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IV. ANALYSIS

A. INTRODUCTION

This analysis examines the hypothesis and the two assumptions that were made in the introduction: 1) that the acquisition of the technological assets previously discussed will greatly increase the intelligence gathering capabilities of RRD and 2) that in order to maximize the assets' utility, they must be organic to the Ranger Regiment.

Each asset is looked at individually and each assumption is be addressed. In doing this, a cost-benefit analysis is done, weighing the potential costs against the benefits that these assets bring to the organization. The analysis uses the counterfactual approach and looks at some scenarios that have not yet occurred, while also looking at other, real-world scenarios to support or reject the hypothesis.

B. REMOTELY MONITORED BATTLEFIELD SENSOR SYSTEM (REMBASS)

In evaluating the REMBASS II, the question that begs to be asked is "If this is such an important piece of equipment, why is it not already a part of the RRD inventory?" Unlike the old REMBASS systems, which were too

bulky and heavy to carry for long distances, this new system is lightweight, relatively inexpensive, and easy to set up and employ. This system would be easy to HALO in with and lightweight enough to be carried over extended distances. It could be set up in areas that could not be easily covered by team members or in areas with a high probability of detection for team members. This would allow a larger area to be covered with fewer team members and minimize the chances of detection and compromise.

The benefits this system brings to the unit also must be looked at against the costs involved. One of the greatest concerns is the weight of the system. During a long-range foot infiltration to the target site, any additional weight is a concern. This is even more of a concern when a piece of equipment has been damaged or, for some other reason, cannot be used and turns into dead weight. The long-range dependability of this system, especially under adverse conditions, is as yet unknown.

This system may also be of limited use during certain missions and in urban environments. This may be especially true when the teams are working clandestinely and with other government agencies.

During a typical deliberate mission profile, when RRD employs to the target area after preparation at a staging

base, the REMBASS II would be an asset, even considering the costs. During previous missions onto large or multiple targets, RRD has had to deploy two teams to adequately provide reconnaissance. However, this meant using a team that was on the operational preparation cycle, which has a longer recall time and trains on different tasks than the mission cycle team. Although this has not been problematic in the past, the use of the REMBASS II would provide greater flexibility for the Regimental Commander, the RS2 and the RRD commander in putting together a collection plan and executing it. This would be especially true during those situations where there are many diverse Priority Intelligence Requirements (PIR) and the availability of collection assets is greatly stretched.

This system is normally an asset found in military intelligence units and requires trained operators to utilize it. In order for this system to be used during deployments, it must be easily available, frequently employed, and not have competing requirements. In order to meet all these requirements and maximize the system's utility, it must be organic to the detachment. Otherwise, experience has shown that assets may not be available when requested or that the operators of those assets may turn out to be a liability on a reconnaissance mission. Not only does the asset need to be

organic, but the operators also need to be part of the MID to facilitate integration during all training events and to foster trust and assess abilities and capabilities.

The current REMBASS system, with its limited capabilities, is being used by the Ranger Regiment and other SOF units as a force protection enhancer. Although it can detect movement, it still takes an operator to determine whether it is an enemy or friendly. This is especially true in an urban environment when it becomes critical to correctly identify friend from foe, combatant from civilian, children from adult, and civilian from military vehicles. A system with a video or image capturing capability would greatly assist in identification while minimizing risk to an operator.

Additionally, fighting in the confusing confines of an urban environment will require strict adherance to the rules of engagement and confirmation of enemy forces prior to targeting and engaging. This requirement can only be met when both HUMINT and technical assets are successfully integrated into a collection plan that minimizes risk to the operators while providing timely and accurate intelligence to the Regiment.

C. SIGNALS INTELLIGENCE (SIGINT)

The ability and the need to have a SIGINT intercept capability for the RRD is clear. In attempting to answer whether a system like the AN/PRD-13(V)2 will greatly increase the intelligence gathering capabilities of RRD, it must be noted that this capability is always requested and provided during all Joint Readiness Exercises (JRX). The RRD is provided this critical capability when members of a SMU are attached for specific missions.

This capability allows the team, and ultimately the Ranger Assault force, to exploit intercepted voice communications. This is a low-risk, high-payoff system that has been critical in identifying the command and control nodes of enemy forces, identifying enemy intentions and strength, and confirming or denying intelligence gathered by other means.

This system (capability) has clearly proven itself to be a needed and desired asset. As part of the analysis, the issue of whether or not it needs to be an organic asset, and assessing the costs and benefits of making this capability organic, needs to be addressed.

The cost/benefit analysis of having this as an organic versus non-organic asset is similar to the REMBASS II. The AN/PRD-13(V)2 is very similar to the system that the SMU

utilizes when it supports the RRD. As a non-organic asset, problems have surfaced in the past when working with this capability. As stated earlier, not all attached SIGINT operators have the same level of training as members of the RRD.

There have been incidents where the attachments have arrived at the last minute, and valuable time was spent briefing the new members. Infrequent JRX's are not conducive to establishing close, habitual working relationships with these SMU members. This problem is compounded when the teams work with constantly changing faces every JRX, and every new face brings new strengths and weaknesses.

Having this SIGINT capability as an organic Regimental asset, along with trained operators who are also organic to the Regiment, will mitigate many of the problems that the RRD currently encounters. As an organic asset, the SIGINT operators could train with the teams on a regular basis, even during smaller training exercises. The operators could be a part of the MID and establish close working relationships with team members by deploying with the teams, becoming an integral part of the planning process from the outset. Team members would not have to scramble at the last minute to try to integrate new faces into the team just prior to a mission. Nor would the teams have to worry about

what strengths or weaknesses they would have to contend with at the last minute. The teams would benefit by knowing who would be supporting them and, through prior training exercises, knowing their strengths, weaknesses and capabilities.

One of the greatest challenges associated with obtaining and employing this system is getting a linguist. In addition to getting the correct linguist for the area of operations, the problem becomes magnified in an area such as the Balkans where there may be several dialects in one language, causing problems for the linguist. Training and sustaining this valuable asset also becomes an issue as this can become extremely time and resource intensive. This issue may require that, prior to deployments, the Regiment obtain a linguist from an outside intelligence organization who can translate the SIGINT that the RRD is collecting and sending back to the rear area.

D. TACTICAL UNMANNED AERIAL VEHICLE (UAV) (MICRO)

The UAV is an asset that has already proven itself as an effective intelligence collection platform in Bosnia, Croatia, and Albania, where the Central Intelligence Agency used GNAT-750 UAV's to monitor air bases, supply caches, and

troop movements (Howard, 1995). The US Army, acknowledging the need and utility for tactical UAV's, has recently allocated $325 million for a five-year program to procure 44 tactical UAV systems (Mullholland, 1999).

Recently, the US Army Training and Doctrine (TRADOC) System Manager (TSM) for UAVs and Aerial Common Sensors has established requirements for Micro Aerial Vehicles. These requirements include 10-kilometer-range, near-real-time data, very low cost (expendable and reusable), a walkman size receiving device, hand-or self-launch capability, and day and night capability among others (TSM Briefing, 1999).

If the Army can procure a MAV that meets these requirements, it would be a significant intelligence collection asset for the RRD and the Ranger Regiment. In certain medium to high-risk scenarios, a team would be able to stand off from a target and send a MAV out to collect information. The unit may also be willing to take greater risks to achieve a better intelligence picture. A MAV would also allow the Regiment to conduct wide-area surveillance without sending out two or more teams. If the MAV had the ability to send reports back to the team and to another UAV or an Airborne Command and Control (ABCCC) platform simultaneously, it would significantly increase the chances that the Regiment would get the intelligence even if the

teams were somehow compromised or had to conduct an emergency exfiltration. This is a feature that all the sensors should be capable of.

This newly emerging technology could easily increase the intelligence gathering capabilities, while lowering the risk to the RRD teams. What is unknown at this point is how long it will be before a system that meets all of the requirements outlined in the TSM brief can be fielded. The US Army has put out an Operational Requirements Document for a Tactical UAV (TUAV ORD, Mar 1999) with many of the same requirements and is currently testing four competing systems seeking to garner a contract with the Department of Defense.

This system could benefit the Ranger Regiment by providing enhanced enemy situational awareness, a target acquisition capability, avoiding enemy strengths and exploiting his weaknesses, and collecting real-time information while minimizing risk to the teams on the ground. As a proven asset already in use in Europe, a micro version of the UAV could provide great benefits to the Regiment at minimal cost.

The dollar cost of purchasing and maintaining these assets is currently unknown. Additionally, in order to maximize the utility of this asset, it would make sense to make it an organic asset. That would mean that the RRD must

be trained to employ and use this asset. However, I would contend that the preferred alternative is to have trained MAV operators assigned to the MID who can support the teams whenever such support is required. This is a system that will require constant monitoring and should have dedicated personnel who are intimate with the use and employment of this system. This will allow the team members to focus on their HUMINT-based reconnaissance and surveillance mission.

E. SUMMARY

The methodology for the analysis was qualitative, using a variable-oriented approach which was mainly focused on a combination of theoretical and substantive bases (Ragin, 1987). I have attempted to examine each system as a stand-alone asset in order to answer several questions and to determine if the research supported my hypothesis. The questions are as follows; 1) What benefit would each individual system be able to provide to the Ranger Regimental Reconnaissance Detachment? 2) Do the benefits outweigh the costs? and 3) What are the costs and benefits of having these assets organic to the unit versus having them non-organic and only attached during missions?

These questions were asked, and answered, and then juxtaposed against the two assumptions that were made in the

hypothesis; 1) The acquisition of these technological assets would greatly increase the intelligence gathering capabilities of RRD and 2) In order to maximize the assets' utility, they must be organic to the Ranger Regiment.

My research, and experience in the Ranger Regiment and the RRD, lead me to conclude that the three systems evaluated would indeed increase the capabilities of RRD and the benefits would outweigh the potential costs. I would also conclude that the assets must also be organic to the unit in order to prevent some of the historical problems that have been experienced.

Along with analyzing the assets, I also attempted to determine what the cost/benefits were in having team members trained as the primary operators of these systems. Again, my research and experience lead me to conclude that team members should continue to focus on their current operational tasks; and that the Regiment should augment the MI detachment with personnel who are trained, by Military Occupational Specialty (MOS), to operate and maintain these new systems. They would be members of Regiment who could train with RRD, deploy with them, develop a habitual working relationship with them and, like RRD, always be ready to go whenever the Regimental Commander calls them.

V. IMPLEMENTATION CONSIDERATIONS

A. INTRODUCTION

The Ranger Regimental Reconnaissance Detachment currently has several operational employment profiles. This chapter examines the two unclassified profiles, the Deliberate Mission profile and the In-Extremis mission profile. It looks at how the new, aforementioned assets would be implemented according to these mission profiles.

In order to understand how the teams are alerted and deployed, it is important to understand how they are operationally aligned for training and deployment. The three teams are aligned under the Joint Operational Readiness Training System (JORTS) cycles and identified within the Regiment as either the Ranger Ready Force (RRF) 1, 2 or 3 Teams. Each cycle lasts approximately 13 weeks and the teams, along with their respective Ranger Battalions, rotate through these three cycles.

The RRF1 team also is known as the mission cycle team and has a 2-hour personnel recall standard, along with numerous other mission cycle requirements. The RRF 2 team, or operational preparation (OPREP) cycle team, has a 4-hour personnel recall standard, along with its other respective cycle requirements. The RRF 3 team is the component cycle

training team and has a 24-hour personnel recall standard along with other, less stringent, cycle requirements. Both RRF 1 and 2 teams are required to maintain a minimum of four RRD team members each, not including attachments.

1. Deliberate Mission Profile

The deliberate mission profile has the RRF 1 team getting alerted at its home station in Fort Benning, Georgia, before marshalling and deploying to a staging base for final mission preparation. The staging base can be either an intermediate staging base (ISB) or an afloat staging base (AFSB) such as a US Naval aircraft carrier. It is from this staging base that the team(s) would finish final mission preparations and deploy into the target area using a variety of insertion methods.

The RRF 1 team could tentatively identify what assets it would need for its mission during the receipt of the warning order at the Regimental Headquarters. With the assets as organic elements of the Regiment and with assigned support personnel, the technical operators also could be available during the initial planning stages to provide planning assistance and implementation guidance.

One of the other advantages to having these assets organic is that they could be quickly palletized during the alert phase of the operation. As the team continues mission

preparation, any changes to the mission or to the load plan can be easily dealt with by having those assets and support personnel available and present from the onset. This will negate any problems that may arise by having to worry about picking up additional required assets or unknown, and untested personnel at the staging base.

Having those assigned assets from mission receipt will facilitate integration into the planning and, ultimately, the execution phase of the mission. Less time can be spent at the ISB trying to integrate any attachments into the teams, and more time can be spent on more critical last minute preparations.

The ISB is also where the Regimental Tactical Operations Center is normally set up. This is where any technical support teams that are not going into the target area would remain. An example of support personnel that could remain at the ISB, would be linguists for the SIGINT system. The teams could deploy into the target area with a SIGINT collector but any foreign intercepts could be sent to the ISB for interpretation and analysis.

This would allow the teams to remain small, thus minimizing their chances for detection. However, this set-up would still allow for timely and accurate flow of

information back to the ISB for analysis and dissemination to the assault force.

2. In-Extremis Mission Profile

The initial stages of this mission profile are very similar to that of the deliberate mission profile. The team(s) may still alert, marshal and deploy to a staging base for final mission preparation into the target area, or they may deploy directly from home station to the target site.

Since this method of employment may require that RRD deploy via strategic aircraft, equipment (pallet) size and weight may be a factor in determining which systems could be deployed. Unlike the deliberate mission profile, any changes to the mission essential equipment would be difficult to make at the last minute. This is due to the fact that the teams may not have the luxury of deploying all three systems to the ISB, or determining at the last minute, based on any changes to the situation or mission, which system (s) would be appropriate for that specific mission.

This mission profile would require that the teams identify which system(s) would be appropriate for the mission during the planning at home station. Once the team and their technological intelligence acquisition system are

loaded on the strategic aircraft, there would be no chance of swapping one system for another.

Even if the rest of the systems were brought as a follow -on package, it would probably not be feasible to try to link these systems up with the teams in the target area. The feasibility of this makes even less sense when one considers that the teams are only on target from H-72 to H-24.

B. SUMMARY

Regardless of which profile the teams deploy under, they will always work under certain constraints such as weight and space. By this I mean the amount and weight of all the equipment they will need to carry in their rucksacks. These constraints are magnified when the teams must conduct a HALO insertion, followed by a long foot infiltration to the target site.

Another major constraint is time. When the RRF 1 Battalion is alerted, it has 18 hours from notification to be wheels up, onboard the deployment aircraft. The supporting RRF 1 team will be under severe pressure to conduct mission planning and be on target, conducting reconnaissance, anywhere from 24 to 72 hours before the assault force comes in. Working under these constraints, it

would be much easier to implement these assets if the Regiment owned them. As organic assets with assigned technical support personnel, they would have the opportunity to become an integral part of RRD through cohesive and frequent mission focused training.

When time becomes critical to mission success, the Regimental Commander would not have to wait for non-organic assets and personnel to increase the intelligence capabilities of RRD. These assets could already be an integral part of the teams, trained and ready to deploy with the teams at a moment's notice. Neither the Regimental Commander nor the Reconnaissance Detachment Commander would have to be concerned about last-minute attachments and the problems that have surfaced in the past.

Although these are the current, unclassified, operational employment profiles for RRD, these could easily change or be modified once these new assets are integrated into the teams. These new assets would also have an impact on the conduct of the clandestine operational profiles and these considerations are examined in the classified appendix. However, as gatherers of HUMINT-based intelligence, the constraints of time, space and weight will remain a constant.

VI. CONCLUSION

As the United States moves into the 21st century, SOF will prepare for the world's uncertain future while operating in an ever-dynamic present. We will actively pursue new and innovative ways to increase the effectiveness of SOF, in peace and war. By providing world class training and state-of-the-art equipment…we will prepare the force for the volatile, multi-polar world of the future.--SOF Vision 2020

A. INTRODUCTION

One of the ways that SOF, and specifically the Ranger Regiment, can increase their effectiveness is through obtaining and maintaining information superiority. Army Vision 2020 defines information superiority as having the "…capability to collect, process, and disseminate an uninterrupted flow of information while exploiting or denying an adversary's ability to do the same."

The pace of technological changes has led to a change in the way that warfare is conducted. As the pace of technological change continues, resulting in a revolution in information technology, these advances must be used to counter new and emerging threats.

As the US military move's into the 21st century, SOF will find themselves increasingly at the forefront of this revolution in information technology and intelligence collection. As we ponder the implications of this revolution

in information technology, we must also examine the opportunities it will present us in countering new and as-yet-undefined threats.

Information is at the root of all intelligence and is actually the "…product resulting from the collection, processing, integration, analysis, evaluation, and interpretation of available information." (Field Manual 34-43, RECCE-J, 1996) The Regiment's missions, like most special operations missions, are intelligence-driven and intelligence-dependent. It requires immediate, accurate and continuous information from a variety of sources and relies on many structures that are considered non-SOF and non-Regimental assets.

B. FINDINGS

As USSOCOM continues to exploit technology and offer its forces new capabilities to counter new threats and accomplish its national objectives, the 75th Ranger Regiment must take advantage of these new technologies in order to increase its own capabilities. USSOCOM is currently looking out to 2025 and has identified systems and capabilities to counter current and emerging threats. Many of those systems mirror those that have been identified in this thesis.

Like USSOCOM, the Ranger Regiment needs to continue to assess what capabilities and limitations the RRD currently has and to look at what their capabilities and limitations may be in the future. In order for the Regiment to maintain its edge as the US Army's premier strike force and to remain relevant in the 21st century, it must seize the opportunity to use information technology and information superiority as a force multiplier.

The Regimental Commanders vision for RRD states that RRD will be recognized as the tactical reconnaissance element of choice for the SOF community (RRD Operational Concept Brief, 1999). The RRD is already recognized as an outstanding collector of HUMINT-based intelligence. The teams are composed of some of the most mature and capable Rangers within the Regiment. They are capable of operating in any environment, under adverse conditions, and being able to provide the Regiment the kind of intelligence it needs to ensure mission success.

However, their strengths in HUMINT-based intelligence gathering can be augmented by the emergence of new information-based technologies. Systems such as the REMBASS II, a SIGINT platform such as the AN/PRD-13(V)2, and the development of the new MAV, will increase the capabilities of RRD to collect information well into the 21st century.

The successful, and complementary, integration of these systems into RRD, and the Ranger Regiment, will ensure mission success while minimizing risk to the operators on the ground.

C. SUMMARY

Hopefully, this thesis has established its goal of looking at the organizational capabilities and shortfalls of the Regimental Reconnaissance Detachment (RRD) and examining how their HUMINT capabilities can be enhanced by augmenting it with the aforementioned organic, technological assets. In addition, I would conclude that the analysis conducted in this thesis finds strong support for the hypotheses that (1) the acquisition of the three intelligence collection systems will significantly increase the capabilities of RRD and (2) making these assets organic to the unit will maximize their utility.

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